



83245LMB
Customer No. 01333

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Charles E. Romano

INK RECORDING ELEMENT

Serial No. 10/068,824

Filed 06 February 2002

Group Art Unit: 1774

Examiner: Pamela R. Schwartz

I hereby certify that this correspondence is being deposited today with the United States Postal Service as first class mail in an envelope addressed to Commissioner For Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Christine Tolhurst
Christine Tolhurst

February 28, 2005
Date

Commissioner for Patents
P.O. Box 1450
Alexandria, VA. 22313-1450

SECOND DECLARATION UNDER RULE 132

1. I, Charles E. Romano, Jr., state that I am a resident and citizen of the United States. I obtained a Bachelor of Science degree in Chemistry from LeMoyne College in Syracuse, New York in 1982. I have been an employee of Eastman Kodak Company (hereinafter referred to as Kodak) since May of 1985. I have been assigned to work in product development and research of imaging processes, including areas relating to inkjet inks and inkjet elements.
2. I am one of the co-inventors of U.S. Serial No. US 10/068,824.
3. I prepared and coated the Examples described in the present Application in 2001. Copies of the original documentation relating to these Examples has been provided as Attachments C-1 to C-4.
4. I have prepared and coated a new set of experiments in January – February, 2005, duplicating the original experiments. These are included as Examples 1-4 and Control Examples 1-6 in Attachments D-1 to D-3.

5. A comparison of layer/melt composition OC-01 and OC-09 indicate that the overcoat layer compositions are identical, with the exception that a non-derivatized poly(vinyl alcohol) is used in the control, Control Example 5, while a derivatized poly(vinyl alcohol) is utilized in the inventive sample, Example 1.
6. As previously stated, the surfactants used in the overcoat layer of Example 1 were added as coating aids, without which repellencies would occur in manufacturing, resulting in an unacceptable coating.
7. As can be seen from Examples 1-4 in Attachment D-1, coated with surfactant, improvements in laminate adhesion are achieved over Control Examples 1-6, coated with surfactant, as are achieved by Examples 5-8 in Attachment D-1, coated without surfactant, over Control Examples 7-12, coated without surfactant. The presence or absence of surfactant affects the coating quality, not the laminate adhesion improvement.
8. Copies of the original documentation relating to these new Examples has been provided as Attachments D-1 to D-3.
9. I further declare that all statements made herein of my own knowledge are true and that the statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent resulting therefrom.

Date: 2-28-05

Charles E. Romano Jr.

Charles E. Romano, Jr.

Example 1

Attachment C-1

USSN 10/D68,824

FORMULA CONVERSION PROGRAM - G/FT2

ENTER THE FOLLOWING REQUIRED MASTER DATA INFORMATION:

1. Solution Identity -> cell "D11"
3. Coated Width (xx.xx) -> cell "I9"
4. Support Width (xx.xx) -> cell "I10"

Support Type: Coated Width: 4.50 inches
Support Width: 5.00 inches

Solution Identity: 20

ENTER THE FOLLOWING DATA TO PERFORM GMS/FT2 CALCULATIONS:

1. Total weight of each chemical.
2. % Solids (xx.xxx) of each chemical; Dry chems=100 unless known.
3. Chemical Identification (EK/RMI # if possible) entered as a label.
4. Enter dry coverage in cell "G37"

Total Weight	% Solids	Item #	Chemical Identification	Wet Weight	Dry Weight	Total Weight	Wet g/ft2	Dry g/ft2	Total g/ft2
48.80	10.00	1- Z-320		43.920	4.880	48.800	1.321	146.782	148.103
0.00	0.00	-2-		0.000	0.000	0.000	0.000	0.000	0.000
49.00	0.00	-3- Water		49.000	0.000	49.000	1.474	0.000	1.474
1.70	5.00	-4- APG325		1.615	0.085	1.700	0.049	2.557	2.605
0.22	10.00	-5- Olin 10G		0.198	0.022	0.220	0.006	0.662	0.668
0.00	0.00	-6-		0.000	0.000	0.000	0.000	0.000	0.000
99.720				94.733	4.987	99.720	2.849	150.000	152.849
The calculated dry weight of the batch is:				4.99	Gms.				

ENTER THE VA OF THE SOLUTION->

ENTER SPECIFIC GRAVITY OF THE SOLUTION->

The calculated solids of this batch is:

ENTER THE DRY COVERAGE IF THE

SOLUTION IS NOT COATED TO A "VA"->

COATED FOOTAGE:

TOTAL SOLUTION NEEDED:

CE Romanoff
Shiela A. Sadler 11-21-01

5.00% → 2.5%

Example 2

FORMULA CONVERSION PROGRAM - G/FT2

ENTER THE FOLLOWING REQUIRED MASTER DATA INFORMATION:

1. Solution Identity -> cell "D11"
3. Coated Width (xx.xx) -> cell "I9"
4. Support Width (xx.xx) -> cell "I10"

+++++ Support Type: +++++ Coated Width: 4.50 inches
+++++ Support Width: 5.00 inches +++++

Solution Identity:

+++++ ENTER THE FOLLOWING DATA TO PERFORM GMS/FT2 CALCULATIONS: +++++

1. Total weight of each chemical.
2. % Solids (xx.xxx) of each chemical; Dry chems=100 unless known.
3. Chemical Identification (EK/RMI # if possible) entered as a label.
4. Enter dry coverage in cell "G37"

Total Weight	% Solids	Item #	Chemical Identification	Wet Weight	Dry Weight	Total Weight	Wet g/ft2	Dry g/ft2	Total g/ft2
48.80	10.00	1- Z-210		43.920	4.880	48.800	1.321	146.782	148.103
0.00	0.00	2-		0.000	0.000	0.000	0.000	0.000	0.000
49.00	0.00	3- Water		49.000	0.000	49.000	1.474	0.000	1.474
1.70	5.00	4- APG325		1.615	0.085	1.700	0.049	2.557	2.605
0.22	10.00	5- Olin 10G		0.198	0.022	0.220	0.006	0.662	0.668
0.00	0.00	6-		0.000	0.000	0.000	0.000	0.000	0.000
99.720				94.733	4.987	99.720	2.849	150.000	152.849

+++++ The calculated dry weight of the batch is: 4.99 Gms. +++++

ENTER THE VA OF THE SOLUTION->
ENTER SPECIFIC GRAVITY OF THE SOLUTION->

The calculated solids of this batch is:

ENTER THE DRY COVERAGE IF THE
SOLUTION IS NOT COATED TO A "VA" ->

COATED FOOTAGE:

TOTAL SOLUTION NEEDED:

+++++ 1349.73 g +++++

Capomano

Shiela A. Sadler 11-21-01

~~5.00%~~ → 2.5 %

ENTER THE FOLLOWING REQUIRED MASTER DATA INFORMATION:

1. solution Identity -> cell "p11"

1. Solution Identity -> cell "D11"
3. Coated Width (xx.xx) -> cell "I9"
4. Support Width (xx.xx) -> cell "I10"

Support Type:

Coated Width:
Support Width

Solution Identity: 14

8-8-01

ENTER THE FOLLOWING DATA TO PERFORM GMS/FT2 CALCULATIONS:

1. Total weight of each chemical.
2. % Solids (xx.xxx) of each chemical; Dry chems=100 unless known.
3. Chemical Identification (EK/RMI # if possible) entered as a label.
4. Enter dry coverage in cell "G37"

Total Weight	% Solids	Item #	Chemical Identification	Wet Weight	Dry Weight	Total Weight	Wet g/ft2	Dry g/ft2	Total g/ft2
● 37.50	10.00	-1- Z-210		33.750	3.750	37.500	0.989	109.928	110.917
● 3.60	35.00	-2- Witcobond 253		2.340	1.260	3.600	0.069	36.936	37.004
● 59.40	0.00	-3- Water		59.400	0.000	59.400	1.741	0.000	1.741
1.70	5.00	-4- APG325		1.615	0.085	1.700	0.047	2.492	2.539
0.22	10.00	-5- Olin 10G		0.198	0.022	0.220	0.006	0.645	0.651
0.00	0.00	-6-		0.000	0.000	0.000	0.000	0.000	0.000
102.420				97.303	5.117	102.420	2.852	150.000	152.852
The calculated dry weight of the batch is: 5.12 Gms.									

The calculated dry weight of the batch is:

ENTER THE VA OF THE SOLUTION->

ENTER SPECIFIC GRAVITY OF THE SOLUTION->

1.005

The calculated solids of this batch is:

2.5% \rightarrow 5.00%

ENTER THE DRY COVERAGE IF THE

SOLUTION IS NOT COATED TO A "VA" ->

0.150 σ/ft^2

COATED FOOTAGE:

800.00 ft

TOTAL SOLUTION NEEDED:

1351.06 a

TOTAL SOLUTION NEEDED:		
1351.06	g	

Shirley A. Sadler 11-21-01

FORMULA CONVERSION PROGRAM - G/FT2

ENTER THE FOLLOWING REQUIRED MASTER DATA INFORMATION:

1. Solution Identity -> cell "D11"
3. Coated Width (xx.xx) -> cell "I9"
4. Support Width (xx.xx) -> cell "I10"

Support Type: Coated Width: 4.50 inches
Support Width: 5.00 inches

Solution Identity: 8

ENTER THE FOLLOWING DATA TO PERFORM GMS/FT2 CALCULATIONS:

1. Total weight of each chemical.
2. % Solids (xx.xxx) of each chemical; Dry chems=100 unless known.
3. Chemical Identification (EK/RMI # if possible) entered as a label.
4. Enter dry coverage in cell "G37"

Total Weight	% Solids	Item #	Chemical Identification	Wet Weight	Dry Weight	Total Weight	Wet g/ft2	Dry g/ft2	Total g/ft2
37.50	10.00	1- Z-210		33.750	3.750	37.500	0.989	109.928	110.917
4.20	30.00	2- Morcyl 132		2.940	1.260	4.200	0.086	36.936	37.022
59.00	0.00	3- Water		59.000	0.000	59.000	1.730	0.000	1.730
1.70	5.00	4- APG325		1.615	0.085	1.700	0.047	2.492	2.539
0.22	10.00	5- Olin 10G		0.198	0.022	0.220	0.006	0.645	0.651
0.00	0.00	6-		0.000	0.000	0.000	0.000	0.000	0.000
102.620				97.503	5.117	102.620	2.858	150.000	152.858
The calculated dry weight of the batch is:						5.12	Gms.		

ENTER THE VA OF THE SOLUTION->

ENTER SPECIFIC GRAVITY OF THE SOLUTION-> 1.005

The calculated solids of this batch is:

ENTER THE DRY COVERAGE IF THE

SOLUTION IS NOT COATED TO A "VA" ->

COATED FOOTAGE:

TOTAL SOLUTION NEEDED:

0.150 g/ft2

800.00 ft

1353.69 g

CEPonano

Shirley A. Sadler 11-21-01

4.998 → 2.5%

A

8-8-01

(Interlayer)

← comments
written
9-11-01

Elvanol 52-22 ^(10%) ⇒ 867g
Witco bond 232 ^(30%) ⇒ 104.1g
Water ⇒ 1,729.5g

Active
86.7g 28%
31.23 35%
~40g dry

~2.3% solids

CE Romano
Shirley A. Sadler 11-21-01

✱

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Pro Luster (08-09-0				Pro Luster (08-09-0				Low Melt Gloss				Pro Luster			
Encad 700				Encad 700				HP 5000				HP 5000			
00% CMY120% CMY100%				00% CMY120% CMY100%				00% CMY120% CMY100%				00% CMY120% CMY100%			
ID				ID				ID				ID			
286	99	136	286	29	99	6	5	0	1	1	1	Galaxy			
						5	3	0	2	2	2	Arkwright			
						130	78	3	4	4	4	Encad QIS			
						97	80	3	3	3	3	Rexam LG			
						7	7	0	1	1	1	Rexam Mug-7			
						54	228	4	4	3	3	HP Photo			
							23	1	0	0	0	0947-1			
												0947-2			
						91	128	4	3	3	3	0947-3			
						99	142	4	3	3	3	0947-4			
						19	12	0	4	4	4	0947-5			
						108	49	0	4	4	4	0947-6			
						78	39	2	4	4	4	0947-7			
						167	111	4	2	2	2	0947-8			
						29	29	1	4	4	4	0947-9			
												0947-10			
						17	27	1	2	2	2	0947-11			
4	3	538				110	39	4	4	4	4	0947-12			
						23	21	0	3	3	3	0947-13			
						42	29	1	4	4	4	0947-14			
												0947-15			
												0947-16			
												0947-17			
						17	18	0	1	1	1	0947-18			
						0	11	1	0	0	0	0947-19			
						0	20	1	0	0	0	0947-20			
						0	40	0	0	0	0	0947-21			
												0947-22			
												0947-23			
												0947-24			
												0947-25			

Attachment D-1
USSN 10/068,824

Example	Surfactant	Immediately After Laminating			30 Hrs After Laminating		66 Hrs After Laminating		Coating Quality
		Peel Force (lbs/inch)	Peel Force (lbs/inch)	Peel Force (lbs/inch)	Peel Force (lbs/inch)	Peel Force (lbs/inch)	Peel Force (lbs/inch)	Peel Force (lbs/inch)	
Example 1	Yes	0.535	1.876	3.433					Good
Example 2	Yes	0.687	2.568	Paper Split					Fair/Good
Example 3	Yes	0.425	2.569	4.274					Good
Example 4	Yes	0.652	1.479	Paper Split					Fair/Good
Control Example 1	Yes	0.061	0.062	0.060					Good
Control Example 2	Yes	0.059	0.050	0.086					Good
Control Example 3	Yes	0.073	0.187	0.093					Fair/Good
Control Example 4	Yes	0.040	0.039	0.069					Very Poor
Control Example 5	Yes	0.044	0.034	0.037					Good
Control Example 6	Yes	0.025	0.060	0.049					Good
Example 5	No	1.265	3.199	Paper Split					Fair/Good
Example 6	No	0.120	0.370	0.999					Fair
Example 7	No	0.168	0.641	Paper Split					Poor
Example 8	No	0.088	0.993	Paper Split					Fair/Good
Control Example 7	No	0.010	0.041	0.037					Poor
Control Example 8	No	0.128	0.035	0.170					Poor
Control Example 9	No	0.098	0.038	0.059					Very Poor
Control Example 10	No	0.016	0.024	0.028					Very Poor
Control Example 11	No	0.010	0.014	0.025					Fair/Good
Control Example 12	No	0.008	0.011	0.015					Good

Charles E. Romano Jr 2-24-05
Kane Maskey 2-24-05

Attachment D-3
USSN 10/068,824

SC5- 4254										Originator		C Romano/ K Maskasky		Support: RC Paper F-surface CDT			
Conditions		DB	DP	Pres	Ft	UserID						Date:	02/18/05				
Setting Sect.		44	30	0.3	39	Phone						Coated by:					
Dryer No. Short		140	20	1	32	Pager											
Dryer No. 2		100	50	2	38	Prob.#											
		annual chg # has been provided															
Part	Slide 1	Slide 2	Slide 3	%	ml/	1/2 Pumps	Cig. Spd.	Coating Description						Laydown	Linear	Notes	Part
ID	Melt #	Melt #	Melt #	solids	ft2	BL=#1 PUMP	ft/min							(mg/ft2)	Feet		ID
1			OC-01	2.0%	5.0	101.0	18	Z-320 PVA + Surfactants						100			1
		IL-01		5.0%	3.0	60.6	18	Elv 52-22 / W232 (77/23)						150	25	Example 1	
	BL-01			10.0%	8.5	85.8	18	7869 Succinylated Pigskin Gelatin						850			
2			OC-02	2.0%	5.0	101.0	18	W 2 44 / Z-210 PVA + Surfactants						100			2
		IL-01		5.0%	3.0	60.6	18	Elv 52-22 / W232 (77/23)						150	25	Example 2	
	BL-01			10.0%	8.5	85.8	18	7869 Succinylated Pigskin Gelatin						850			
3			OC-03	2.0%	5.0	101.0	18	Z-210 PVA / W253 + Surfactants						100			
		IL-01		5.0%	3.0	60.6	18	Elv 52-22 / W232 (77/23)						150	25	Example 3	
	BL-01			10.0%	8.5	85.8	18	7869 Succinylated Pigskin Gelatin						850			
4			OC-04	2.0%	5.0	101.0	18	Z-210 PVA/Morceryl 132 + Surfactants						100			4
		IL-01		5.0%	3.0	60.6	18	Elv 52-22 / W232 (77/23)						150	25	Example 4	
	BL-01			10.0%	8.5	85.8	18	7869 Succinylated Pigskin Gelatin						850			
5			OC-05	2.0%	5.0	101.0	18	HEC Qp300 + Surfactants						100		(Control)	5
		IL-01		5.0%	3.0	60.6	18	Elv 52-22 / W232 (77/23)						150	25	Example 1	
	BL-01			10.0%	8.5	85.8	18	7869 Succinylated Pigskin Gelatin						850			
6			OC-06	2.0%	5.0	101.0	18	K100LV + Surfactants						100		(Control)	6
		IL-01		5.0%	3.0	60.6	18	Elv 52-22 / W232 (77/23)						150	25	Example 2	
	BL-01			10.0%	8.5	85.8	18	7869 Succinylated Pigskin Gelatin						850			
7			OC-07	2.0%	5.0	101.0	18	A15 LV + Surfactants						100		(Control)	7
		IL-01		5.0%	3.0	60.6	18	Elv 52-22 / W232 (77/23)						150	25	Example 3	
	BL-01			10.0%	8.5	85.8	18	7869 Succinylated Pigskin Gelatin						850			
8			OC-08	2.0%	5.0	101.0	18	Carbose LT-30 + Surfactants						100		(Control)	8
		IL-01		5.0%	3.0	60.6	18	Elv 52-22 / W232 (77/23)						150	25	Example 4	
	BL-01			10.0%	8.5	85.8	18	7869 Succinylated Pigskin Gelatin						850			

Charles E Romano Jr 2-17-05
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SC5- 4254						Originator		C Romano/ K Maskasky				Support: RC Paper F-surface CDT						
Conditions		DB	DP	Pres	Ft	UserID								Date: 02/18/05				
Setting Sect.		44	30	0.3	39	Phone								Coated by:				
Dryer No. Short		140	20	1	32	Pager												
Dryer No. 2		100	50	2	38	Prob.#												
Part	Slide 1	Slide 2	Slide 3	%	ml/	1/2 Pumps	Ctg. Spd.	Coating Description							Laydown	Linear	Notes	Part
ID	Melt #	Melt #	Melt #	solids	ft2	BL=#1 PUMP	ft/min								(mg/ft2)	Feet		ID
9			OC-09	2.0%	5.0	101.0	18	GH-23 + surfactants							100		Control	9
		IL-01		5.0%	3.0	60.6	18	Elv 52-22 / W232 (77/23)							150	25	Example 5	
	BL-01			10.0%	8.5	85.8	18	7869 Succinylated Pigskin Gelatin							850			
10			OC-10	2.0%	5.0	101.0	18	WO-320 + Surfactants							100		Control	10
		IL-01		5.0%	3.0	60.6	18	Elv 52-22 / W232 (77/23)							150	25	Example 6	
	BL-01			10.0%	8.5	85.8	18	7869 Succinylated Pigskin Gelatin							850			
11			OC-11	2.0%	5.0	101.0	18	Z-320 PVA (no surfactant)							100			11
		IL-01		5.0%	3.0	60.6	18	Elv 52-22 / W232 (77/23)							150	25	Example 5	
	BL-01			10.0%	8.5	85.8	18	7869 Succinylated Pigskin Gelatin							850			
12			OC-12	2.0%	5.0	101.0	18	W2344 / Z-210 PVA (no Surfactant)							100			12
		IL-01		5.0%	3.0	60.6	18	Elv 52-22 / W232 (77/23)							150	25	Example 6	
	BL-01			10.0%	8.5	85.8	18	7869 Succinylated Pigskin Gelatin							850			
13			OC-13	2.0%	5.0	101.0	18	Z-210 PVA / W253 (no surfactant)							100			13
		IL-01		5.0%	3.0	60.6	18	Elv 52-22 / W232 (77/23)							150	25	Example 7	
	BL-01			10.0%	8.5	85.8	18	7869 Succinylated Pigskin Gelatin							850			
14			OC-14	2.0%	5.0	101.0	18	Z-210 PVA/Morcryl 132 (no surfactant)							100			14
		IL-01		5.0%	3.0	60.6	18	Elv 52-22 / W232 (77/23)							150	25	Example 8	
	BL-01			10.0%	8.5	85.8	18	7869 Succinylated Pigskin Gelatin							850			
15			OC-15	2.0%	5.0	101.0	18	HEC Qp300 (no surfactant)							100		Control	15
		IL-01		5.0%	3.0	60.6	18	Elv 52-22 / W232 (77/23)							150	25	Example 7	
	BL-01			10.0%	8.5	85.8	18	7869 Succinylated Pigskin Gelatin							850			
16			OC-16	2.0%	5.0	101.0	18	K100LV (no surfactant)							100		Control	16
		IL-01		5.0%	3.0	60.6	18	Elv 52-22 / W232 (77/23)							150	25	Example 8	
	BL-01			10.0%	8.5	85.8	18	7869 Succinylated Pigskin Gelatin							850			
17			OC-17	2.0%	5.0	101.0	18	A15 LV (no surfactant)							100		Control	17
		IL-01		5.0%	3.0	60.6	18	Elv 52-22 / W232 (77/23)							150	25	Example 9	
	BL-01			10.0%	8.5	85.8	18	7869 Succinylated Pigskin Gelatin							850			
18			OC-18	2.0%	5.0	101.0	18	Carbose LT-30 (no surfactant)							100		Control	18
		IL-01		5.0%	3.0	60.6	18	Elv 52-22 / W232 (77/23)							150	25	Example 10	
	BL-01			10.0%	8.5	85.8	18	7869 Succinylated Pigskin Gelatin							850			

Charles E Romano Jr 2-17-05

SC5- 4254				Originator				C Romano/ K Maskasky				Support: RC Paper F-surface CDT			
Conditions		DB	DP	Pres	Ft	UserID	L125610 / L594389							Date:	02/18/05
Setting Sect.		44	30	0.3	39	Phone	x23004 / x77880							Coated by:	
Dryer No. Short		140	20	1	32	Pager	x50938								
Dryer No. 2		100	50	2	38	Prob.#	annual chg # has been provided								
Part	Slide 1	Slide 2	Slide 3	%	ml/	1/2 Pumps	Coating Description		Ctg. Spd.	Laydown	Linear	Notes	Part		
ID	Melt #	Melt #	Melt #	solids	ft2	BL=#1 PUMP			ft/min	(mg/ft2)	Feet		ID		
19			OC-19	2.0%	5.0	101.0	GH-23 (no surfactant)		18	100		Control	19		
		IL-01		5.0%	3.0	60.6	Elv S2-22 / W232 (77/23)		18	150	25	Sample II			
	BL-01			10.0%	8.5	85.8	7869 Succinylated Pigskin Gelatin		18	850					
20			OC-20	2.0%	5.0	101.0	WO-320 (no surfactant)		18	100		Control	20		
		IL-01		5.0%	3.0	60.6	Elv S2-22 / W232 (77/23)		18	150	25	Sample II			
	BL-01			10.0%	8.5	85.8	7869 Succinylated Pigskin Gelatin		18	850					
Toxic melts :		none			Instructions: #1 pump BL; Short thread up, CDT, Melts & hoppers 105°F									Finish: rolls	

Charles E Romano Jr 2-17-05